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IDS

[54] **ARRAY TYPE STORAGE UNIT SYSTEM**[75] **Inventors:** Kouji Arai, Odawara; Takao Satoh; Akira Yamamoto, both of Sagami-hara, all of Japan[73] **Assignee:** Hitachi, Ltd., Tokyo, Japan[21] **Appl. No.:** 341,082[22] **Filed:** Nov. 17, 1994[30] **Foreign Application Priority Data**

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[51] **Int. Cl.<sup>6</sup>** ..... G06F 11/00[52] **U.S. Cl.** ..... 395/182.05; 395/441[58] **Field of Search** ..... 395/575, 425, 395/182.04, 182.05, 441; 371/10.1, 40.4, 51.1[56] **References Cited****U.S. PATENT DOCUMENTS**

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*Primary Examiner*—Robert W. Beausoliel, Jr.*Assistant Examiner*—Joseph E. Palys*Attorney, Agent, or Firm*—Fay, Sharpe, Beall, Fagan, Minnich & McKee[57] **ABSTRACT**

A storage unit system includes a control apparatus having a unit for reading memory data from a plurality of storage units before increase into a memory of the control apparatus, a preparing unit for preparing parity data newly from the memory data read in the memory, a rearrangement unit for dispersing transfer data from a processor read in the memory and the newly prepared parity data to be written into a plurality of storage units after the increase to perform arrangement of data, a memory unit for storing a write position on the way of the rearrangement of data, a comparison unit for comparing an access position for an access request from the processor with the write position, and a determining unit for determining a data dispersed pattern used in a data access from the processor on the basis of a comparison result of the comparison unit, whereby the storage unit can be increased individually with a unit of one storage unit and dynamically without stop of the system.

**6 Claims, 6 Drawing Sheets**